

YouTube™ videos as a source of information about thyroid ablation treatments for medical students

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ABSTRACT

Aims: The aim of our study was to evaluate the content about thyroid ablation on YouTube™ in terms of scientific accuracy, usefulness, and quality of information for patients and healthcare professionals.

Methods: Within the scope of the study, videos on YouTube™ were evaluated by medical students who did not have detailed information about thyroid ablation treatments. After searching YouTube™ with the relevant keywords, 43 videos were evaluated. After the videos were excluded according to our criteria, the remaining 30 videos were analyzed and scored on DISCERN and Global Quality Scale scores. According to DISCERN scores, low-quality videos with useless content below 50 points were grouped as group 1, and videos with useful content above 50 points were grouped as group 2. General information (number of views, length, how many days ago it was shared, number of likes, number of comments received) was noted, and statistical analysis was performed.

Results: The median (interquartile range) number of views was 2012 (478-6877), the duration of the video in minutes was 2.47 (1.55-5.78), the number of days since the video was uploaded was 1234 (459-1611), the number of likes the video received was 19 (5-63), and the number of comments was 0 (0-4). The DISCERN scale was determined as 14 videos in group 1 and 16 videos in group 2. When general characteristics are compared with groups 1 and 2, a statistically significant difference was found between video length and groups 1 and 2. ($p < 0.05$) The duration of the video content was longer in group 2. No statistically significant difference was found between other findings and groups 1 and 2.

Conclusion: When evaluated according to scales, it turns out that longer videos are of better quality. In today's technology, it is easy to access information but difficult to access accurate, reliable, and quality information. Therefore, physicians and academic institutions should provide high-quality, reliable videos of appropriate duration that contribute to informing patients and medical students. We believe that more videos uploaded by healthcare professionals and academic institutions will improve the quality of YouTube™ videos on thyroid ablation treatments.

Keywords: Thyroid ablation, YouTube, DISCERN, Global Quality Scale

INTRODUCTION

Thyroid diseases are a very common health problem in society and have many treatment options. Traditional treatment modalities include surgical resection, radioactive iodine therapy, and ablation techniques, which have become widespread recently.¹ Thyroid ablation is a minimally invasive method developed as an alternative to surgery, especially in benign nodules. In this method, a thin probe is inserted into the nodule under ultrasound guidance, and the target nodule is destroyed in a controlled manner.² Compared to surgery, it offers important advantages such as a lower risk of complications, application under local anesthesia, no need for hospitalization, and a faster recovery time.³

With the gradual development of thyroid ablation surgical techniques, its safety and success compared to other methods have been demonstrated over the years.⁴ Thyroid ablation was initially used in benign nonfunctional nodules; with the development of techniques, it has been tried in functional nodules, malignant thyroid nodules, and papillary thyroid microcarcinomas and found to be successful.^{2,5} Medical information about thyroid ablation treatments has not yet taken its place in classical medical education. Therefore, the internet is frequently used as a source of information on this subject.



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YouTube™ is the second most used social media platform and search engine today. This platform, which is used by approximately 2.1 billion people and has 76 different language options, has paved the way for its use for educational purposes.⁶ Doctors, patients describing their experiences, and various health institutions share the videos they shoot in their fields on this platform for educational, advertising, and informational purposes. Patients use YouTube™ videos to get information about their diseases and treatments. However, patients are confused about the quality and reliability of the videos shared. There is no mechanism to evaluate the quality of videos on YouTube™.⁷ In this study, videos accessed by entering keywords on the YouTube™ platform were evaluated. Our aim was to reveal the value of the content related to thyroid ablation on YouTube™ in terms of scientific accuracy, usefulness, and quality of information for patients and healthcare professionals.

METHODS

In this cross-sectional study, we evaluated the scientific quality of thyroid ablation videos on the YouTube™ platform on March 3, 2025. This study was conducted in Kırıkkale University Faculty of Medicine Hospital according to the principles of the Declaration of Helsinki after obtaining ethical approval from Kırıkkale University Non-interventional Researches Ethics Committee (Date: 12.02.2025, Decision No: 2025.02.39). Within the scope of the study, the videos were evaluated by medical students who did not have detailed information about thyroid ablation treatments. On the internet (after browser and cookies were cleared), 43 videos that appeared in searches on YouTube™ with the keywords “thyroid ablation procedure,” “interventional thyroid ablation therapy,” and “thyroid ablation procedure” were evaluated. Among the evaluated videos, 13 videos that did not meet our exclusion criteria (videos shot in languages other than English, mini videos, and silent videos with no informative content) were excluded from the study, and 30 videos were evaluated. We noted the duration of the videos, when they were uploaded, the number of likes, the number of comments, and the number of times they were viewed. The number of dislikes was not visible on YouTube™ content, as it is now shared only with the video uploader. Therefore, the video power index (VPI) could not be calculated. DISCERN scores and Global Quality Scale (GQS) scores were noted. The study was conducted in accordance with internet research ethics guidelines, and the researchers have no conflict of interest with the video content.

DISCERN Scale and Scoring System

The DISCERN questionnaire was developed for the objective assessment of video quality and reliability, and previous studies have used the DISCERN scoring system for the evaluation of YouTube™ videos.⁸⁻¹⁰ The DISCERN scale consists of 3 parts that assess the reliability of the video (part 1), the quality of information about treatment options (part 2), and the overall quality of the information (part 3) (**Table 1**). The first part has 8 questions, and the second part has 7 questions. Section 3 includes an overall rating. Each question is scored on a 5-point scale (1-5). The videos were monitored by an independent evaluator group of medical students. Each item was scored on a scale of 1-5 (1: very poor, 5: excellent)

(10). The DISCERN rating scale classifies quality levels; scores between 16 and 26 indicate very low quality, scores between 27 and 38 indicate low quality, videos with scores between 39 and 50 indicate moderate quality, scores between 51 and 62 indicate an acceptable quality standard, and videos with scores between 63 and 75 indicate exceptional quality.^{10,11} Based on this, content above 50 points was categorized as useful and below 50 points as useless.¹²

Table 1. DISCERN scoring system

Section	Questions	No	Partly	Yes
Reliability	1. Explicit aims	1	2 3 4	5
	2. Aims achieved	1	2 3 4	5
	3. Relevance to patients	1	2 3 4	5
	4. Source of information	1	2 3 4	5
	5. Currency (date) of information	1	2 3 4	5
	6. Bias and balance	1	2 3 4	5
	7. Additional sources of information	1	2 3 4	5
	8. Reference to areas of uncertainty	1	2 3 4	5
Quality	9. How treatment works	1	2 3 4	5
	10. Benefits of treatment	1	2 3 4	5
	11. Risks of treatment	1	2 3 4	5
	12. No treatment options	1	2 3 4	5
	13. Quality of life	1	2 3 4	5
	14. Other treatment options	1	2 3 4	5
	15. Shared decision making	1	2 3 4	5
	16. The overall quality of the publication as a source of information	1	2 3 4	5

GQS

The GQS is a five-point scale used to assess video quality, presence of sufficient information, flow, and usefulness of videos.¹³ The GQS of each video ranges from 1 to 5 points (1: poor quality, 5: excellent quality). Videos that are most useful and of excellent quality are considered five points (**Table 2**).

Table 2. Global quality scale criteria

Score	Global score description
1	Poor quality, poor flow of the site, most information missing, not at all useful for patients
2	Generally poor quality and poor flow, some information listed but many important topics missing, of very limited use to patients
3	Moderate quality, suboptimal flow, some important information is adequately discussed but others poorly discussed, somewhat useful for patients
4	Good quality and generally good flow, most of the relevant information is listed, but some topics are not covered, useful for patients
5	Excellent quality and excellent flow, very useful for patients

Statistical Analysis

The data analyses were conducted using SPSS v25 (IBM SPSS Statistics for Windows; Armonk, NY: IBM Corp.). The Shapiro–Wilk test was used to check the normality of data distribution. Continuous variables were presented as median (interquartile range) values and categorical variables for the non-normally distributed data. The Mann–Whitney U test was used to compare data groups with non-normally distributed data. $p < 0.05$ was considered significant.

RESULTS

Since the distribution of the general characteristics of the 30 videos (number of views, duration of the video in minutes, number of days since the video was uploaded, number of likes the video received, number of comments) was not homogeneous, median (interquartile range) values were calculated (Table 3). The median (interquartile range) of the number of views was 2012 (478-6877), the duration of the video in minutes was 2.47 (1.55-5.78), the number of days since the video was uploaded was 1234 (459-1611), the number of likes the video received was 19 (5-63), and the number of comments was 0 (0-4) (Table 3). According to DISCERN scores, useless videos below 50 points were grouped as group 1, and videos above 50 points were grouped as useful content group 2. Accordingly, 14 videos were identified in group 1 and 16 videos in group 2. When general characteristics are compared with groups 1 and 2, a statistically significant difference was found between video length and groups 1 and 2 ($p<0.05$). The duration of the video content was longer in group 2. No statistically significant difference was found between other findings and groups 1 and 2 (Table 4). DISCERN scores and GQS scores were correlated. No correlation was found between the two scoring systems (Table 5).

Table 3. Basic characteristics of the analyzed videos

	n	Median (25-75)
Views	30	2012 (478-6877)
Length (min)	30	2.47 (1.55-5.78)
Duration	30	1234 (459-1611)
Likes	30	19 (5-63)
Comments	30	0 (0-4)

Data presented as median (interquartile range) values, Min: Minimum

Table 4. Comparison of variables between useful and not useful videos according to DISCERN

	DISCERN <50	DISCERN >50	p*
Views	1525 (309-8526)	2442 (656-3856)	0.739
Length	1.7 (1.3-2.3)	4.4 (2.5-10.5)	0.001
Duration	976 (370-1530)	1280 (656-1796)	0.360
Likes	13 (3-63)	20 (7-127)	0.298
Comments	0 (0-4)	0 (0-5)	0.980

* Mann-Whitney U test was used to compare data groups

Table 5. Correlation between quality scores

Variables		DISCERN	GQS
DISCERN	r	1	
	p		
GQS	r	0.294	1
	p	0.115	

GQS: Global Quality Score, r: Correlation coefficient, p: Statistically significant

DISCUSSION

Thyroid diseases are quite common today. In addition to periodic surgical approaches and drug therapies, ablation techniques have been developed. Ultrasound-guided

ablation techniques are increasingly being incorporated into the routine treatment of thyroid lesions. New ablation methods, like radiofrequency ablation (RFA), microwave ablation (MWA), laser ablation (LA), and high-intensity focused ultrasound (HIFU), use high heat on the specific area to permanently affect the cells. Lesions that cause local symptoms or hyperfunction can be selectively treated with ultrasound guidance without damaging the entire gland.¹⁴ In particular, RFA has lower complication rates than LA.¹⁵ MWA, on the other hand, is faster and can produce higher energy compared to RFA because its working principle is different. It can ablate larger areas.⁵ HIFU is a new thermal ablation technique that causes focused destruction with high heat while minimizing damage to surrounding tissues.¹⁶ However, all of these treatments have gained popularity recently and have partially taken their place in classical medical education. Explaining these methods, which are applied by interventional radiologists, general surgeons, and endocrinologists, in new technological terms and illustrating the procedures keeps them up-to-date for patients and medical professionals. In today's technology, we live in the age of the Internet, and the Internet is actively used to access information. Technological innovation brings about significant transformations in education and social changes.¹⁷ In the literature, there are studies showing that 8 out of 10 Internet users use the Internet to search for health-related information.¹⁸ Patients, patient relatives, healthcare professionals, and medical students use the Internet very actively for learning in the field of health. The complex YouTube™ algorithm, which has a very effective place in these uses, is designed to navigate a pool of categorized videos and functions through a complex and constantly evolving process that is largely shaped by viewers' feedback and interactions.¹⁹ It is important to note that in this complex and dynamic algorithm, search results for thyroid ablation treatments may change when performed by different users at different times. All of the videos we evaluated in our study were shared by health professionals. This could be because the topic we investigated is both new and technical. Nevertheless, when the quality values were grouped according to the DISCERN score, 14 videos were classified below 50 points. When we compared the general characteristics with groups 1 and 2, which we formed according to DISCERN scoring, we found a statistical correlation between video length and groups 1 and 2 ($p<0.05$). The duration of the video content was longer in group 2. There was no statistical correlation between other findings and groups 1 and 2. Keeping the content longer may make the videos more understandable. There was no statistical difference between GQS score and DISCERN score. This disparity may be due to the number of videos we evaluated. In studies to be conducted with more comprehensive content, the parallelism of the two scores can be determined. When the literature is evaluated, although we did not find any studies on this subject, there are many medical video evaluation studies conducted with YouTube™. Tutan et al.¹² evaluated YouTube™ videos on hepatosteatois and found that the quality assessment of videos shared by healthcare professionals was higher. In the same study, no significant difference was found between the number of views and the uploader group, the time elapsed since uploading, the number of subscribers, and the number of views. In another study, videos related to fibromyalgia were evaluated, and no statistically significant correlation was found between

DISCERN scores and the rate of likes, number of likes, number of dislikes, number of comments, and number of views.²⁰ In our study, we did not find a difference between the number of views and quality. We can think that the quality of the content does not affect the viewing rates, so each piece of content affects daily life independently of quality.

Limitations

There are some limitations in our study. First of all, YouTube™ is a dynamic sharing network, and the content and number of videos can change rapidly. Our study was conducted over a certain period of time. Our study did not include YouTube™ videos in any language other than English. The evaluation was done by a single group. Better results could be obtained with different groups or individuals. In addition, we searched for YouTube™ videos with specific keywords. Other posts were not evaluated. We couldn't compare video quality with other users because all the videos we evaluated were shared by healthcare professionals. In addition, the number of videos we evaluated was small. We think that better results can be obtained with more detailed studies as the number of posts on this subject increases.

CONCLUSION

Our study indicated that YouTube™ English videos of thyroid ablation videos are accessible sources of information for medical students. Our findings revealed that some of the YouTube™ English videos on thyroid ablation treatments were of low quality, and videos with higher quality content were longer in duration. In conclusion, the quality of information on YouTube™ is variable. In today's technology, it is easy to access information but difficult to access accurate, reliable, and high-quality information. Therefore, doctors and academic institutions should provide high-quality, reliable videos of appropriate duration that contribute to informing patients and medical students. Such materials will prevent patients, medical professionals, and students from being misinformed or misinformed. We believe that more video uploads by healthcare professionals and academic institutions will improve the quality of YouTube™ videos on thyroid ablation treatments.

ETHICAL DECLARATIONS

Ethics Committee Approval

This study was obtained from Kırıkkale University Non-interventional Researches Ethics Committee (Date: 12.02.2025, Decision No: 2025.02.39).

Informed Consent

Since the data is taken from publicly available YouTube, no written informed consent form was obtained from patients.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

The authors declared that this study has received no financial support.

Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

REFERENCES

- Haugen BR, Alexander EK, Bible KC, et al. 2015 American Thyroid Association management guidelines for adult patients with thyroid nodules and differentiated thyroid cancer. *Thyroid*. 2016;26(1):1-133. doi:10.1089/thy.2015.0020
- Papini E, Monpeyssen H, Frasoldati A, Hegedüs L. 2020 European Thyroid Association clinical practice guideline for the use of image-guided ablation in benign thyroid nodules. *Eur Thyroid J*. 2020;9(4):172-185. doi:10.1159/000508484
- Na DG, Lee JH, Jung SL, et al. Radiofrequency ablation of benign thyroid nodules and recurrent thyroid cancers: consensus statement and recommendations. *Korean J Radiol*. 2022;23(1):12-26. doi:10.3348/kjr.2012.13.2.117
- Yang Z, Pan XH, Han HT, Zhao YX, Ma LB. Progress in research on ablation of thyroid nodules. *Endokrynol Pol*. 2024;75(3):262-66. doi:10.5603/ep.98908
- Cui T, Jin C, Jiao D, Teng D, Sui G. Safety and efficacy of microwave ablation for benign thyroid nodules and papillary thyroid microcarcinomas: a systematic review and meta-analysis. *Eur J Radiol*. 2019;118:58-64. doi:10.1016/j.ejrad.2019.06.027
- Osman W, Mohamed F, Elhassan M, Shoufan A. Is YouTube a reliable source of health-related information? A systematic review. *BMC Med Educ*. 2022;22(1):382. doi:10.1186/s12909-022-03446-z
- Ozturkmen C, Berhuni M. YouTube as a source of patient information for pterygium surgery. *Ther Adv Ophthalmol*. 2023;15:25158414231174143 doi:10.1177/25158414231174143
- Cetin HK, Koramaz I, Zengin M, Demir T. The evaluation of YouTube™ English videos' quality about coronary artery bypass grafting. *Sisli Etfal Hastan Tip Bul*. 2023;57(1):130-135. doi:10.14744/SEMB.2022.59908
- Yalkin O, Uzunoglu MY, İflazoglu N, Esen E. Are YouTube Videos a reliable source for obtaining information about colorectal cancer screening? *Cureus*. 2022;14(1):e21550. doi:10.7759/cureus.21550
- Charnock D, Shepperd S, Needham G, Gann R. DISCERN: an instrument for judging the quality of written consumer health information on treatment choices. *J Epidemiol Community Health*. 1999; 53(2):105-111. doi:10.1136/jech.53.2.105
- Kaicker J, Borg Debono V, Dang W, Buckley N, Thabane L. Assessment of the quality and variability of health information on chronic pain websites using the DISCERN instrument. *BMC Med*. 2010;8(1):59. doi:10.1186/1741-7015-8-59
- Tutan D, Kaya M. Evaluation of YouTube videos as a source of information on hepatosteatosis. *Cureus*. 2023;15(10):e46843. doi:10.7759/cureus.46843
- Zengin O, Onder ME. Educational quality of YouTube videos on musculoskeletal ultrasound. *Clin Rheumatol*. 2021;40(10):4243-4251. doi:10.1007/s10067-021-05793-6
- Richter JP, Richter CP, Gröner D. Ultraschallgeführte lokalablativverfahren zur behandlung von schilddrüsenläsionen [Ultrasound-guided ablation techniques for thyroid lesions]. *Laryngorhinotologie*. 2023;102(12):916-927. doi:10.1055/a-1979-9184
- Lim HK, Lee JH, Ha EJ, Sung JY, Kim JK, Baek JH. Radiofrequency ablation of benign non-functioning thyroid nodules: 4-year follow-up results for 111 patients. *Eur Radiol*. 2013;23(4):1044-1049. doi:10.1007/s00330-012-2671-3
- Esnault O, Franc B, Monteil JP, Chapelon JY. High-intensity focused ultrasound for localized thyroid-tissue ablation: preliminary experimental animal study. *Thyroid*. 2004;14(12):1072-1076. doi:10.1089/thy.2004.14.1072
- Garrison DR. E-learning in the 21st century: a framework for research and practice. 2nd ed. New York: Routledge; 2011.
- Wasserman M, Baxter NN, Rosen B, Burnstein M, Halverson AL. Systematic review of internet patient information on colorectal cancer surgery. *Dis Colon Rectum*. 2014;57(1):64-69. doi:10.1097/DCR.0000000000000011
- Fyfield M, Henderson M, Phillips M. Navigating four billion videos: teacher search strategies and the YouTube algorithm. *Learn Media Technol*. 2021;46(1):47-59. doi:10.1080/17439884.2020.1781890
- Ozsoy-Unubol T, Alanbay-Yagci E. YouTube as a source of information on fibromyalgia. *Int J Rheum Dis*. 2021;24(2):197-202. doi:10.1111/1756-185X.14043